

### **REMARKS**

Claims 14, 15, 17, 20-22, 39, 40, 42, 45-47 and 58 are pending. In the instant amendments, claims 14, 17, 20, 22, 39, 42, 45 and 47 are amended. Claim 46 is canceled. Upon entry of the claim amendments, claims 14, 15, 17, 20-22, 39, 40, 42, 45, 47 and 58 will be pending and under consideration.

The instant claim amendments replace the amendments proposed in Applicants' Amendment filed November 6, 2008, which the Patent Office did not enter. Applicants respectfully request that the Patent Office not enter the claim amendments proposed in Applicants' Amendment filed November 6, 2008.

#### **I. AMENDMENTS TO THE CLAIMS**

The determining and identifying steps of claims 14, 17, 20, and 22 have been amended to require that these steps are performed on a computer. Support for these amendments is found in figure 1 which, according to page 10, lines 23-24, is a system (machine) for associating a phenotype with one or more candidate chromosomal regions in a genome of an organism and thus can carrying out the determining and identifying steps of claim 14, 17, 20, and 22. Support for these amendment to claims 14, 17, 20, and 22 is also found in claims 52-61 as originally filed, which are directed to computer systems that perform the determining and identifying steps using a computer system.

Claims 39, 42, 45, and 47 have been amended to require a "physical computer readable storage medium." Support for this amendment to claims 39, 42, 45, and 47 is provided, for example, by figure 1 and accompanying discussion in lines 26-33, on page 10 of the specification discussing the exemplary hard disk drive and random-access memory (RAM) components of the non-volatile storage unit and system memory that can store programs and data used to associate a phenotype with one or more candidate chromosomal regions in a genome of an organism.

Claim 46 has been canceled without prejudice to Applicants' rights to pursue canceled subject matter in one or more continuation applications.

The amendments to the claims are supported by the specification and claims as originally filed. No new matter is introduced with these claim amendments. Entry of the claim amendments is respectfully requested.

No claim amendment fee is believed to be due with these amendments.

## **II. CLAIM REJECTION UNDER 35 U.S.C. § 101**

Claims 14, 15, 17, 20-22, 39, 40, 42, 45-47 and 58 stand rejected under 35 U.S.C. § 101 as being directed to nonstatutory subject matter. Specifically, these claims stand rejected under 35 U.S.C. § 101 because claims 14, 17, 20, 22, 39, 42, 45, 47 and 58 each recite “communicating” a result to “a readily accessible computer memory or other computer on a network” which the Patent Office deems to read on the generation of a nonstatutory transient signal. Office Action, dated August 6, 2008, page 4 (hereinafter “the First 35 U.S.C. § 101 Rejection”). Claims 39, 40, 42, and 45-47 also stand rejected under 35 U.S.C. § 101 for the additional reason that they are drawn to a “computer program product comprising a computer readable storage medium” which the Patent Office alleges reads on the transient embodiment of a signal or carrier wave that is not considered concrete. Office Action, dated August 6, 2008, page 6 (hereinafter “the Second 35 U.S.C. § 101 Rejection”).

Claim 46 is canceled, thus the rejection of claim 46 is moot. With respect to the 35 U.S.C. § 101 rejections, the Patent Office states “[r]egarding inventions involving the application of a judicial exception, said application must be a practical application of the judicial exception that includes either a step of a physical transformation, or produces a useful, concrete, and tangible result.” Office Action, dated August 6, 2008, page 3. Applicants respectfully point out that, in view of *In re Bilski*, No. 2007-1130 (Federal Circuit, October 30, 2008), the Patent Office’s test for patent-eligibility under 35 U.S.C. § 101 is incorrect. Reasoning that “[a] claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing,” *In re Bilski* held that the proper test for determining patent-eligibility under 35 U.S.C. § 101 is the machine-or-transformation test. *In re Bilski*, No. 2007-1130 (Federal Circuit, October 30, 2008). Accordingly, Applicants have amended claims 14, 17, 20, and 22 to require that the determining and identifying steps be performed on a computer. As such, claims 14, 17, 20, and 22, and their dependent claims, are intimately tied to another category of invention: a machine, and thus are directed to patent-eligible subject matter under the *In re Bilski* machine-or-transformation 35 U.S.C. § 101 test.

Applicants respectfully disagree with the Examiner’s contentions that the rejected claims read on the transient embodiment of a signal or carrier wave. In a December 11, 2008, Examiner Interview with Supervisory Patent Examiner Marjorie Moran for an application facing similar 35 U.S.C. § 101 rejections, Examiner Moran indicated that the Patent Office is “backing down” from the need to recite “user-accessible” in the communicating step, as long as it is clear from the specification that the result is intended to be user-accessible.

Examiner Moran further stated that if the specification does not have a disclosure of non-tangible computer readable storage media, the argument can be made that non-tangible storage media is excluded from the scope of the communicating step of the claims, and thus it is not necessary to limit the outputting step of the claims by reciting “user-accessible” or “in user-readable form to a” before “computer readable storage medium.”

Applicants respectfully submit that it is clear from the specification that the one or more genotypic data structures are intended to be user-accessible. To begin with, page 10, line 22, through page 11, line 31, as well as Figure 1 of the specification describe a system 20 for associating a phenotype with one or more candidate chromosomal regions in a genome of an organism. System 20 includes a main non-volatile storage unit, preferably a hard disk drive, for storing software and data and a user interface 24, including a display 28. Moreover, Figures 7 through 12 each show a computer user interface for displaying the results of computations performed in accordance with the claimed subject matter. From this disclosure in the specification, it would be clear to one of ordinary skill in the art at the time the application was filed that the results of the claimed computations are intended to be user-accessible. Moreover, the application does not disclose intangible embodiments such as carrier waves. Thus, consistent with Examiner Moran’s statements on December 11, 2008, in a patent application facing similar 35 U.S.C. § 101 rejections, it is evident that non-tangible storage media embodiments are excluded from the scope of the communicating steps recited in the rejected claims, and thus it is not necessary to limit the claims by reciting “user-accessible” or “in user-readable form to a” before “computer memory” or “other computer in a network.”

With respect to the Second 35 U.S.C. § 101 Rejection, the Patent Office asserts that amending claims 39, 40, 42, 45, and 47 to recite a *physical* computer readable medium is sufficient for the claims reciting the phrase to encompass statutory subject matter. Office Action, dated August 6, 2008, page 5. Although Applicants do not acquiesce to the rejection, particularly since the specification does not disclose transitory computer readable media such as carrier waves, nonetheless to expedite allowance of the claims, Applicants have amended claims 39, 42, 45, and 47 to recite “physical computer readable medium.”

For the reasons set forth above and in view of the amendments to the claims, Applicants respectfully request that the rejection of claims 14, 15, 17, 20-22, 39, 40, 42, 45-47 and 58 under 35 U.S.C. § 101 be withdrawn.

**III. CLAIM REJECTION UNDER 35 U.S.C. § 103(a)**

Claim 46 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Satagopan *et al.*, *Genetics*, volume 144, pages 805-816, 1996. Although Applicants do not acquiesce to the rejection for reasons stated in Applicants' Amendment and Response dated April 7, 2008, nonetheless the rejection is moot since claim 46 has been canceled. Applicants respectfully request that the rejection of claim 46 under 35 U.S.C. § 103(a) be withdrawn.

**CONCLUSION**

Applicants respectfully request that the present amendments be entered and above remarks be made of record in the instant application. In view of the above remarks, Applicants respectfully submit that the subject application is in good and proper order for allowance.

No fees are believed to be due. However, if any fees are due in connection with this submission, please charge the required fees to Jones Day Deposit Account No. 50-3013 (order no. 800935-999015).

Respectfully submitted,

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